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**XV. A Dissertation upon the Class of the
Phocæ marinæ, by James Parsons M. D.
F. R. S.**

Read Feb. 14. 1750. **I**N February 1742-3, I had the honour to give this learned Society some account of the sea-calf, which was shew'd at Charing-cross at that time, which I often saw whilst alive, and afterwards opened it. It is printed in the 496th number of the Transactions, p. 383.

There is also now in town a seal (another species of *phoca*) alive; which gives occasion to my taking farther notice of this class of animals, that the Society may have a clear idea of their differences, and great variety; and also be undeceiv'd with respect to the sex of this, which is now in town.

All the species of *phocæ*, this being the generical name, have among them a very great likeness to each other, in the shape, not only of their heads, but also of their bodies and extremities. They are webbed nearly alike, are alike reptile, viviparous, bringing forth, suckling, and supporting their young alike; and, in fine, all have the same title to these appellations, *phocæ*, *vitulus marinus*, *sea-cow*, *sea-lion*, &c. and these names are vulgarly given to them, as their size happens to be greater or smaller; and the first of these names from *φῶκη*, or, according to Dr. Charleton, from *βῶκη*, signifying a noise, or kind of grunting, which they all at some times exhibit.

As to the sex of this present creature, the owner reports it to be female. Now that, which I have
already

already described being a female, I was the better able to see how far the present *phoca* differs from that. And indeed, altho' I will not absolutely pronounce it a male at present, yet, I confess, I had much rather incline to think it so, than otherwise, for the following reasons: 1. Tho' I several times went to view it with the greatest care, held it up by the tail, and turn'd it as I thought proper, I could discern no *pudenda* like that of the former; there being no aperture under the tail, but the *anus*. 2. I could not discern any mamillary vestiges in the least upon any part of the belly; and, 3. at some distance behind the umbilical regions, about the place where one would most naturally expect to find a *penis* in the males of viviparous animals, there is a roundish vent or hole, not at all projecting from the body. Now the want of the marks above-mention'd seems to bespeak the following query; Whether this vent may not probably be the place, from whence a *penis* is protruded upon proper occasions? because, if this animal had a *penis*, which, like that of other animals, was prominent from the surface of the body, it would be torn to pieces; as he is a mere reptile, dragging his hinder parts along shores, rocks, stony places, sands, and such-like, when he is out of the water, being in no-wise able to raise his body from the ground by the posterior webs; and therefore it is more reasonable to suppose the *penis* concealed, and occasionally capable of extrusion; and no author, that I know of, makes any mention of this matter to satisfy the curious about it. And as to what the servant, attending the *phoca*, reports, concerning a menstrual discharge from it, I have examined him about it,

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it, and he knows no more, than that he finds, sometimes, swimming upon the surface of the water, wherein the *phoca* lives, a white froth; and when he takes it up, it dwindles away. This he supposes to be the menfes; which I suppose to be a froth, brought on by the action of the animal upon the salt and water, which are very susceptible of such an effect. But, if a shew-man gives out, that his animal is a sea-lioness, he will easily report any other absurdity.

The different species of this class, or rather *genus*, of animals, are distinguishable, by their proportion, their size, as to their full growth, their teeth, webb'd feet, and whatever other parts in some may not be proper to others.

As to the first, this species before us is shorter and thicker in proportion than that I described before; which appears by the figure in the before-mention'd transaction; and it may be depended on, that I was as exact as possible in taking its true proportion. Dr. Grew, in his excellent book of the *Rarities*, &c. mentions a difference in the proportions of two which he describes, in their thickness; that presented to the museum by Mr. Haughton being thicker than the other. He also gives an account of another species, which he calls the long-necked seal, in these words; “ He is much slenderer than either of the former; “ but that, wherein he principally differs, is the length “ of his neck; for, from his nose-end to his fore- “ feet, and from thence to his tail, are the same “ measure; as also in that, instead of his fore-feet, “ he hath rather fins; not having any claws thereon,

“ as have the other kinds.” The head and neck of this species are exactly like those of an otter. One of those, which is also now in our museum, taken notice of by the same author, has an head shaped like that of a tortoise ; less in proportion than that of every other species, with a narrowness or stricture round the neck : the fore-feet of these are five-finger’d, with nails, like the common seal.

Their size, as to the utmost growth of an adult, is also very different. That before described, was 7 feet and an half in length ; and, being very young, had scarce any teeth at all. This in town is but about 3 feet long, is very thick in proportion, and has a well-grown set of teeth ; which, in a great measure, shews this to be about its full growth. The *manati* is also a *phoca*, and is one of those species, which grows to a prodigious size. The great skin, in the museum, is that of a *manati* ; which seems to me to agree with the other species of this family, in every essential part, except broad bifid webs, instead of webbed feet : and Peter Martyr gives an account of one of these, which was thirty-five feet long, and twelve thick.

The docility of this seal in town is, with reason, much admired, as a thing unusual and strange to us ; but it appears, from Dr. Charleton, that, in his time, it was not uncommon for the seamen and fishers to catch some of these creatures sleeping, on the coasts of Cornwall and the Isle of Wight, and bring them to be so tame, as to get money by shewing them, and their performances : and he adds, that the people of the former place call the larger kinds about that coast *foils*, and the smaller *seals*.

But

But the story told us, by the above author Martyr, of that great *manati* shews how capable these creatures are of being render'd very familiar; and how susceptible of impressions, tho' they really seem as unfit for any kind of education as any other whatsoever.

This author describes the *manati* very fully; and then tells this remarkable story:

“ A governor, in the province of Nicaragua, had
 “ a young *manati*, which was brought to him, to
 “ be put into the lake Guanaibo, which was near his
 “ house; wherein he was kept for the space of
 “ twenty-six years; and was usually fed with bread,
 “ and such-like fragments of victuals, as people often
 “ feed fish with in a fish-pond. He became so fa-
 “ miliar, by being daily visited and fed by the family,
 “ that he was said to excel even the dolphins, so
 “ much celebrated by the antients for their docility
 “ and tameness. The domestics of this governor
 “ named him Matto; and at whatsoever time of
 “ the day they call'd him by that name, he came
 “ out of the lake, took victuals out of their hands,
 “ crawl'd up to the house to feed, and play'd with
 “ the servants and children; and sometimes ten per-
 “ sons together would mount upon his back, whom
 “ he carried with great ease and safety cross the
 “ lake.”

All that is here mention'd of the docility of this *manati*, does not much surpass that of this seal in town. He answers to the call of his keeper, and is observant of his commands; takes meat from his hand, crawls out of the water, and stretches at full length, when he is bid; and, when order'd, returns

into the water ; and, in short, stretches out his neck to kiss his keeper, as often, and as long, as required. These are marks of a tractableness, which one could hardly expect from animals, whose mein and aspect promise little, and indeed whose places of abode, being for the most part inaccessible, prevent their being familiarized to any commerce with men, except by mere chance.

The teeth are very well preserved in the skin of the *manati* in the museum : they are 16 in the upper, and 14 in the under jaw ; and of these, 4 are between the canine teeth of the upper, and 2 between those of the under jaw. They are all conical from the gums ; the canine teeth are two in each jaw ; being an inch and half long each, and of the same form with the rest ; and they all bend a little backwards by a small curve in themselves. Nor have the very back teeth of all the least resemblance to the *molars* of other animals.

The *walrus*, or *mors*, is another species of *phoca*, and differs very little in shape and parts from the other species of this *genus* ; except that the two canine teeth of the upper jaw are of a prodigious size, like the great teeth of an elephant.

There are some species of this *genus* of the *phoca*, which never grow to above a foot long ; and there are of all sizes at full growth from these to the *manati* and *walrus*. The skins of every species have short hair, and their colours are variegated from the straw-colour and yellow to the deepest brown and black. They are sometimes regularly brindled, sometimes curiously spotted ; sometimes in brown clouds upon a yellow ground, like that of a pied horse ; and sometimes the brown or black occupies
the

the greater part of the skin, having less of the yellow; and, in short, even those of the same species are as variously spotted or clouded as the hounds in the same pack; and it is probable, that, in unfrequented islands and countries, other species of this tribe are yet undiscovered. But it must be observed, that, where no other difference, but the variation of the colour, appears among them, that is, in their size, proportion, teeth, or extremities, they are no more to be accounted different species, than cows having various changes in the distribution of the clouds or spots on their skins.

The reverend Mr. Walter, in the first chapter of the second book of *Lord Anson's Voyage*, describes an animal under the name of the sea-lion, an abstract of which you have as follows. He says, That seals haunt the Island of Juan Fernandes in great numbers; but that there is another amphibious creature here, call'd a sea-lion, that bears some resemblance to a seal, tho' much larger: they are in size, when at full growth, from 12 to 20 feet in length, and from 8 to 15 in circumference. Their skin is an inch thick; and they have at least a foot in thickness of fat upon the flesh; so that a large one affords a butt of oil: and he adds, that one being first shot, they measured the quantity of blood, having cut his throat for that purpose, and it amounted to two hogheads, besides what remain'd in the blood-vessels. Their skins were cover'd with short hair, of a light dun colour; but the tails, and their fins, which serve them for feet on shore, are almost black. Their feet are divided at the ends like fingers; the web, which joins them, not reaching to the extremities; and each of

these extremities is furnished with a nail. They have a distant resemblance to an over-grown seal ; but in some particulars there is a difference ; especially in the males, who have a large snout or trunk, hanging five or six inches below the end of the upper jaw. The females have not this ; and the males are much larger than the females. The larger males engross to themselves a great many females ; intimidating the smaller, and driving them away. This author says, they live at sea all summer, and on shore in winter. They may indeed meet more frequently in herds at one time of the year than another ; but such is their nature, that they cannot totally inhabit the waters, having great need of respiration in the open air ; and therefore they must frequently come out of the water to rest, as well as to feed on such herbage as is proper for them. He adds, that they ingender and bring forth their young, generally two at a birth, while they live on shore ; which, says he, being about the size of full-grown seals, they suckle. On shore they feed on the grass and verdure on the banks of fresh-water rivers, and sleep in herds in miry places. They are sound sleepers ; and therefore some of the males place themselves at certain distances to watch the sleeping herd ; and are capable of alarming, by grunting or snorting like horses. The males fight one another furiously about their females, wounding one another desperately with their teeth. They kill'd several of these for food, especially for the hearts and tongues, and esteemed them preferable to those of bullocks *. He represents them as very full

* That these are wholesome food, and have frequently been used as such in former times, in England, appears from

full of revenge and fury in defending their young ; for that one day a sailor being carelessly employ'd in skinning a young sea-lion, the female, who was its parent, stole upon him, and laid hold on his head, wounding him with her teeth in so desperate a manner, that he died in a few days.

This history may be applicable to other species of *phocæ*; and, by this description, as well as the figures exhibited

from the following note, sent me by the reverend Dr. Jeremiah Milles.

S I R,

THE dean of Exeter desired me to transcribe the two following notes from the 6th volume of *Leland's Collectanea*, and to send you them.

Page 1. in the account of the quantity of provisions purchased for the enthronization-feast of archbishop Neville, there is this article,

Porpoises and Seals XII.

and yet, in the bills of fare, which were added afterwards, I find not the least mention either of porpoise or seal, served up or dressed in any shape.

So likewise, in page 31 of the same volume, where is an account of the provisions, and their prices, which were bought for archbishop Warham's enthronization-feast, there is an article,

De Seales & Porpess. prec. in gross 26 s. 8 d.

and yet the preceding bills of fare do not mention either of these fishes, as served up at any of the tables of the feast. Were they not bought for the dinner of the servants, and other inferior officers ; whose bills of fare are not particularly mention'd in this account ?

If these notices are of any use to you, I shall be very glad to have communicated them; and am, Sir,

Grosvenor-street,
Feb. 15. 1750.

Your very humble servant,

Jer. Milles.

exhibited in the book, what are counted sea-lions, are *manati's*.

It will be well to observe, that, in the figure of the male, which, Mr. Walter says, was taken from the life, there is no appearance of a *penis*: which would, in some measure, support our opinion of the sex of the seal in town. For I should imagine, that, if a *penis* was to be seen, the draught's-man would scarce have omitted so remarkable a part.

The learned Linnæus ranks this *genus* of animals with those of his second order of quadrupeds; and indeed with great propriety, however injudicious it may lately have been thought: for, altho' none of this tribe can use the posterior extremities to raise themselves up, or stand upon them, as upon legs and feet; yet they swim and guide themselves in the water with them; for which they claim the title of *palmipedes*, or webbed feet; for they have no similarity with fins.

If it be objected, that these animals would come more naturally under his class of *amphibia*; we may assert, that he had two very good motives for ranking them with quadrupeds. First, he had our great Ray for his director, who has himself done the same thing: and, secondly, he found, that, altho' these creatures are really amphibious; yet, the commanding characters, by which he has, with great sagacity, distinguished his classes, prevail here to give them a place rather among the quadrupeds than the *amphibia*.

This great naturalist divides the animal kingdom into six classes, and each class into six orders. Each order is again divided into different *genera*, and each *genus*

genus again has its different species. The *phoca* then is the sixth *genus* under the second order of the *quadrupedia*; which order is that he calls *feræ*. It is very necessary to give this detail, in this place, of his glorious method, that we may do justice to so great a man, and also introduce the commanding characteristics by which animals fall naturally in the places which he allots them, as far only as it relates to this tribe under consideration.

To the class of *quadrupedia* he gives these general characters:

Quadrupedia { *Corpus pilosum* — *pedes quatuor*.
 { *Femina viviparæ, lactiferæ*.

To the second order of this class, the *feræ*.

Feræ { *Dentes primores utrinque sex*.
 { ——— *canini longiores*.

To the sixth *genus* of the *feræ*, the *phoca*.

Phoca { *Dentes primores superiores sex, inferiores 4*.
 { *Pedes 5. 5. palmati natatorii*.
 { *Auriculæ nullæ*.

Under these characters he ranks but two general species:

1. *Phoca dentibus caninis testis* — *Seehund*.
2. *Phoca dentibus caninis exsertis*. — *Walrus*.

The different species of the former, whose canine teeth are hid by the lips, are more numerous than those, whose superior canine teeth, as those of the *walrus*, project from the lips, and are, from their
variations

variations in other parts, to be described by their particular marks, besides the canine teeth. We shall therefore add to these two species of Linnæus some particular ones, which he had not seen (specimens of which our museum affords); and shall make a table of them; that whenever any others shall at any time occur to the learned, they may be added to these.

Phoca minor, dentibus caninis tectis, palmis anterioribus digitatis, ungulatis, posterioribus latis ordinariis, ungulis teretibus donatis.

The common seal, }
Vitulus marinus, } Charleton, and many other
 Sea-calf, } authors.

On the shores of the Isle of Wight, Cornwall, and almost every country.

Phoca minor, dentibus caninis tectis, cervice longiore, capite lutræ caput referente, palmis anterioribus latis non digitatis, posterioribus latis ordinariis.

The long-neck'd seal. — Crew.

On the shores of divers countries.

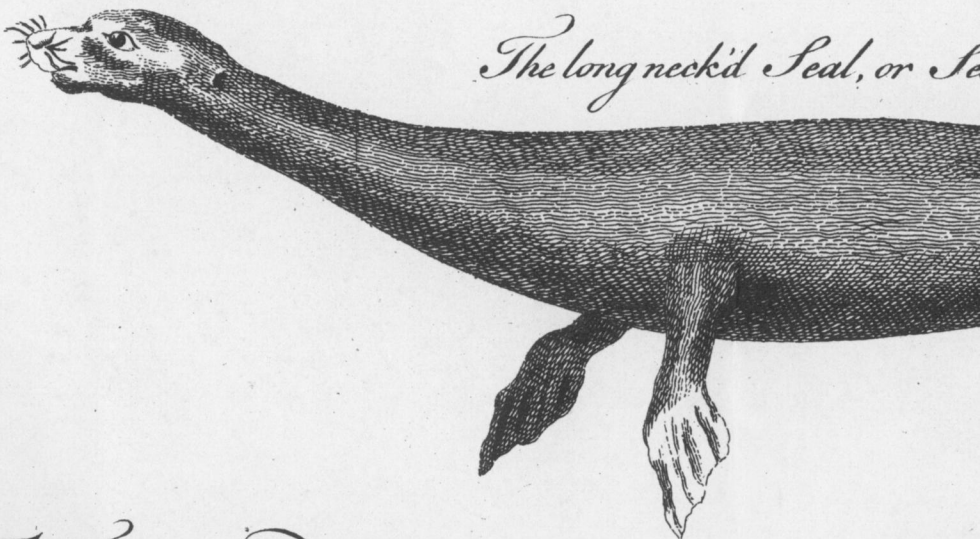
Phoca minor, dentibus caninis tectis, palmis anterioribus digitatis, ungulatis, posterioribus latis ordinariis, collo constricto, capite testudini-forme.

The tortoise-headed seal.

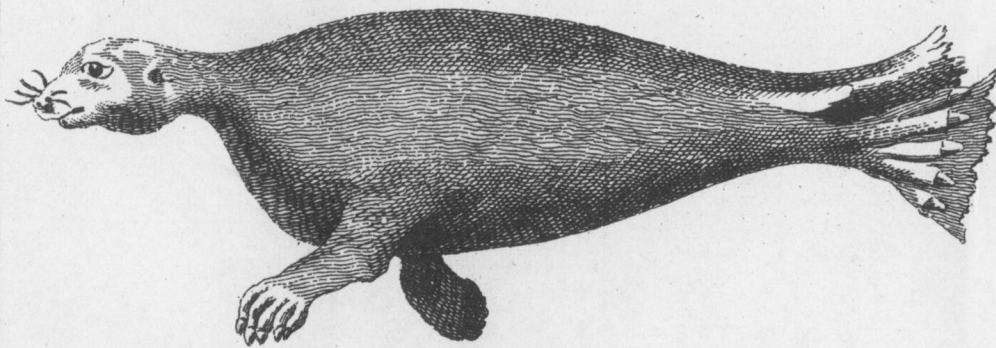
On the shores of many parts of Europe.

Phoca

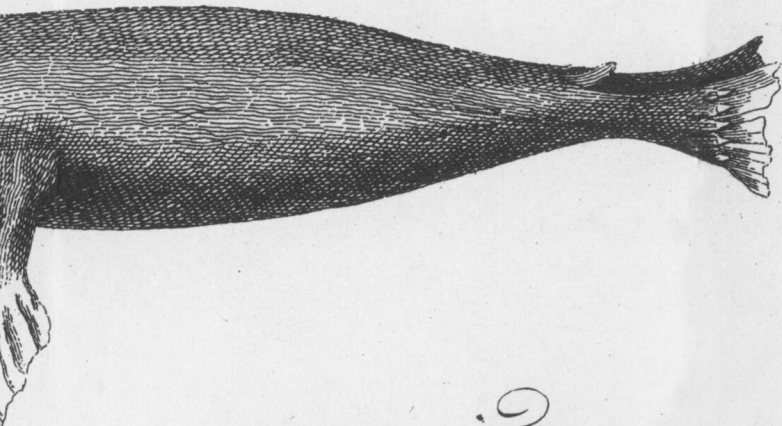
The long neck'd Seal, or Seal



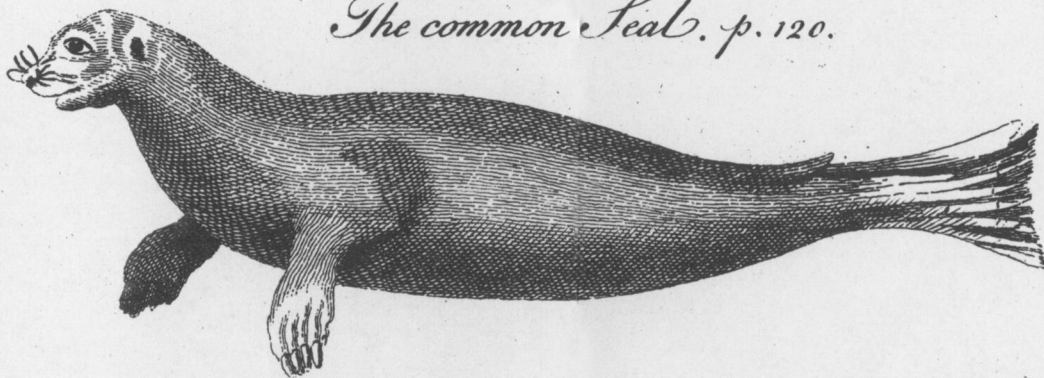
The Tortoise-headed Seal. p. 120.



Rock'd Seal, or Sea-Calf. p. 120.



The common Seal. p. 120.



Phoca major dentibus caninis tectis, palmis anterioribus digitatis, unguatis, posterioribus latis ordinariis, corpore longiore.

The long-bodied seal.

On the coasts of Cornwall, and the Isle of White. Described and figured in the Transactions, N^o 469, p. 383.

Phoca major, dentibus caninis tectis, palmis anterioribus digitatis, unguatis, posterioribus latis bifidis.

Manati. — De Laet. Pet. Martyr.

Sea-lion. — Lord Anson.

Nicaragua, and other American coasts, and the Island of Juan Fernandes.

P. S. Monsieur de la Condamine, in the account of his voyage down the River of the Amazons, describes an animal, which, without doubt, is a species of the *phoca*: his account is as follows:

“ I drew from the life the largest fresh-water
 “ fish, which the Spaniards and Portuguese have
 “ call’d the sea-cow, or ox-fish; which must not be
 “ confounded with the *phoca*, or sea-calf. This
 “ fish feeds on herbage on the brinks of rivers: the
 “ flesh and fat are very like that of veal: the fe-
 “ males have dugs to suckle their young withal:
 “ some have made this fish resemble too nearly
 “ the ox, by attributing horns to it, which na-
 “ ture never designed it. It is not amphibious,
 “ properly speaking, for it never goes intirely out
 “ of the water; being incapable of doing so;
 Q “ having

“ having only two fins near the head, like wings,
 “ sixteen inches long, supplying the places of arms
 “ or legs. He only stretches his head out of the
 “ water to reach the grass. This, which I drew,
 “ was female, and was about seven feet and half
 “ long; its greatest thickness being but two feet.
 “ I have since seen of these much larger. The
 “ eyes of this animal bear no proportion with the
 “ size of the body; they are round, and are but
 “ three lines in diameter. The openings of the
 “ ears are yet less, appearing like pin-holes. Some
 “ have thought this fish was peculiar to the River
 “ of the Amazons; but it is as common in the
 “ Orinoque; and is found also in the Oyapoc,
 “ and many other rivers about Cayenne, and the
 “ coasts of Guyané, and elsewhere. This is what
 “ is call’d Lamentin, at Cayenne, and in the French
 “ islands of America; but I believe it a species a
 “ little different. It never is seen out at sea; and
 “ it very rarely is at the mouths of rivers; but we
 “ find it above a thousand leagues from the sea in
 “ most of the great rivers, that fall into that of the
 “ Amazons, as in the Guallaga, the Pastaga, &c.”

Whoever considers this ingenious author’s accurate account of this animal will easily, and with great propriety, be able to range it with one of the species in our account above.